

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for making an absorbent fibrous web composite, comprising the steps of:

providing a first superabsorbent polymer precursor composition;

providing a second superabsorbent polymer precursor composition capable of chemically reacting with the first superabsorbent polymer precursor composition upon contact;

providing a pre-formed fibrous web including a plurality of hydrophilic fibers;

applying the first superabsorbent polymer precursor composition as spaced apart microdroplets having a diameter of about 10 to about 1000 microns to the fibrous web using a non-contact printing process which is not a spraying process;

separately applying the second superabsorbent polymer precursor composition as spaced apart microdroplets having a diameter of about 10 to about 1000 microns to the fibrous web using a non-contact printing process which is not a spraying process, whereupon the second superabsorbent polymer precursor composition initially comes into contact with the first superabsorbent polymer precursor composition after being applied to the fibrous web; and

chemically reacting the first and second superabsorbent polymer precursor compositions on or in the fibrous web to form spaced apart particles of superabsorbent polymer consisting essentially of spaced apart particles having a spacing of 50-4000 microns and a dry diameter of about 10 to about 1000 microns;

wherein the superabsorbent polymer constitutes 20-75% by weight of the absorbent composite.

Claim 2 (Canceled)

3. (Previously Presented) The process of Claim 1, wherein the microdroplets of the first and second precursor compositions have diameters of about 50-500 microns.

4. (Previously Presented) The process of Claim 1, wherein the microdroplets of the first and second precursor compositions have viscosities of about 5-1000 centipoise.

5. (Previously Presented) The process of Claim 1, wherein the microdroplets of the first and second precursor compositions have viscosities of about 10-500 centipoise.

6. (Previously Presented) The process of Claim 1, wherein the microdroplets of the first and second precursor compositions have viscosities of about 20-100 centipoise.

Claims 7-9 (Canceled)

10. (Previously Presented) The process of Claim 1, wherein the first and second superabsorbent polymer precursor compositions are separately applied in two different stages.

11. (Previously Presented) The process of Claim 1, wherein the first and second superabsorbent polymer precursor compositions are separately applied in a single stage.

12. (Original) The process of Claim 1, wherein the first superabsorbent polymer precursor composition comprises a monomer and the second superabsorbent polymer precursor composition comprises a polymerization initiator.

13. (Original) The process of Claim 1, wherein the first and second superabsorbent polymer precursor compositions chemically react spontaneously upon contact with each other.

14. (Original) The process of Claim 1, wherein the nonwoven web further comprises a plurality of thermoplastic fibers.

15. (Original) The process of Claim 1, wherein the hydrophilic fibers comprise cellulose fibers.

16. (Original) The process of Claim 1, wherein the hydrophilic fibers comprise absorbent fibers.

17. (Original) The process of Claim 1, wherein the hydrophilic fibers comprise staple fibers.

18. (Currently Amended) A process for making an absorbent fibrous web composite, comprising the steps of:

providing a first superabsorbent polymer precursor composition including a monomer;

providing a second superabsorbent polymer precursor composition including a polymerization initiator;

providing a pre-formed fibrous web including a plurality of fibers;

applying the first superabsorbent polymer precursor composition as spaced apart microdroplets having a diameter of about 10 to about 1000 microns to the fibrous web using a non-contact printing process which is not a spraying process;

separately applying the second superabsorbent polymer precursor composition as spaced apart microdroplets having a diameter of about 10 to about 1000 microns to the fibrous web using a non-contact printing process which is not a spraying process, whereupon the second superabsorbent polymer precursor composition initially comes into contact with the first superabsorbent polymer precursor composition after being applied to the fibrous web; and

chemically reacting the first and second superabsorbent polymer precursor compositions on or in the fibrous web to form ~~spaced apart particles of~~ superabsorbent polymer consisting essentially of spaced apart particles having a spacing of 50-4000 microns and a dry diameter of about 10 to about 1000 microns;

wherein the superabsorbent polymer constitutes 20-75% by weight of the absorbent composite.

19. (Previously Presented) The process of Claim 18, wherein the first and second superabsorbent polymer precursor compositions are separately applied in two different stages.

20. (Previously Presented) The process of Claim 18, wherein the first and second superabsorbent polymer precursor compositions are separately applied in a single stage.

21. (Original) The process of Claim 18, wherein the monomer comprises a compound selected from the group consisting of aliphatic unsaturated monocarboxylic acids and their salts, methacrylic acids and their salts, unsaturated dicarboxylic acids and their salts, and combinations thereof.

22. (Original) The process of Claim 18, wherein the monomer comprises a compound selected from the group consisting of acrylic acid and its salts, methacrylic acid and its salts, and combinations thereof.

23. (Original) The process of Claim 18, wherein the polymerization initiator comprises a redox system.

24. (Original) The process of Claim 23, wherein the redox system comprises a water-soluble redox system.

25. (Original) The process of Claim 23, wherein the redox system comprises an oxidizing radical generator and a reducing agent.

26. (Original) The process of Claim 23, wherein the oxidizing agent comprises a compound selected from peroxides, persulfates, permanganates, chlorites, hypochlorites, and combinations thereof.

27. (Original) The process of Claim 23, wherein the reducing agent comprises a compound selected from sulfites, ascorbic acid, alkaline metal salts, and combinations thereof.

28. (Currently Amended) A process for making an absorbent nonwoven web composite, comprising the steps of:

providing a pre-formed nonwoven web including about 25-100% by weight absorbent fibers and about 0-75% by weight thermoplastic fibers;

providing a first superabsorbent polymer precursor composition;

providing a second superabsorbent polymer precursor composition capable of chemically reacting with the first superabsorbent polymer precursor composition upon contact;

applying the first superabsorbent polymer precursor composition to the nonwoven web as spaced apart microdroplets having a diameter of about 10 to about 1000 microns using a non-contact printing process which is not a spraying process;

separately applying the second superabsorbent polymer precursor composition to the nonwoven web as spaced apart microdroplets having a diameter of about 10 to about 1000 microns using a non-contact printing process which is not a spraying process, whereupon the second superabsorbent polymer precursor composition initially comes into contact with the first superabsorbent polymer precursor composition after being applied to the nonwoven web; and

chemically reacting the first and second superabsorbent polymer precursor compositions on or in the nonwoven web to form ~~spaced apart particles of~~ superabsorbent polymer consisting essentially of spaced apart particles having a spacing of 50-4000 microns and a dry diameter of about 10 to about 1000 microns;

wherein the superabsorbent polymer constitutes 20-75% by weight of the composite.

Claim 29 (Canceled)

30. (Previously Presented) The process of Claim 28, wherein the microdroplets have diameters of about 50-500 microns.

31. (Previously Presented) The process of Claim 28, wherein the pre-formed nonwoven web comprises about 50-100% by weight absorbent fibers and about 0-50% by weight thermoplastic fibers.

32. (Previously Presented) The process of Claim 28, wherein the pre-formed nonwoven web comprises about 60-90% by weight absorbent fibers and about 10-40% by weight thermoplastic fibers.